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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,359	03/09/2004	Stephen Boyer	909A.0156.U1(US)	4348

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/797,359	BOYER ET AL.	
	Examiner	Art Unit	
	Karlheinz R. Skowronek	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 August 2007 has been entered.

Claim Status

Claims 1-46 are pending.

Claims 1-46 are being examined.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 7, 9-15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Garfield (An Algorithm for translating chemical names to molecular formulas, Doctoral Dissertation, (originally published 1961, Library of Congress Catalog Card Number 61-17455, Institute for Scientific Information), republished in essays of an information scientist, Vol. 7, p. 441-513, 1984, Institute for Scientific information).

Claim 1 is directed to a method of processing a document, comprising: partitioning document text and assigning semantic meaning to words, where assigning comprises applying a plurality of regular expressions, rules and a plurality of dictionaries to recognize chemical name fragments; recognizing any substructures present in the chemical name fragments; and determining structural connectivity information of the chemical name fragments and recognized substructures; extracting identifying information and storing the identifying information with determined structural connectivity information in a searchable index. Similarly, claim 19 is drawn to a system and claim 37 is drawn to a computer program product automating the method of claim 1 and its dependents.

Garfield teaches a method of processing documents (literature), comprising: partitioning document text and assigning semantic meaning to words (p. 454, Objectives of linguistic analysis, sent. 4 and p. 490, 3rd para., sent. I), where assigning comprises applying a plurality of regular expressions (p. 469, 2nd-3rd para.), rules and a plurality of dictionaries (p. 470-472, tables 1-3; p. 478; 6th para.) to recognize chemical name fragments; recognizing any substructures present in the chemical name fragments (p. 490, 1" para, sent. 1); and determining structural connectivity information of the chemical name fragments and recognized substructures (p. 479, table V) and storing the determined structural connectivity information in a searchable index (p. 453, 4th para., sent. 1-2). With respect to the limitations of extracting identifying information, Garfield shows the calculation of chemical formulas from chemical names is seen to read on this limitations (p. 466). With respect to storing extracted identifying information

with chemical structural information, Garfield shows that chemical names and chemical formulas are stored in an index that may be searched by a user to identify compounds reading on the limitation of storing extracted information in a searchable index (p. 455). With respect to text documents and the text within those documents, in the broadest reasonable interpretation includes printed literature.

Regarding claims 4, Garfield teaches searching the index by fragment or substructure name and/or connectivity (p. 466, Relationship Between Nomenclature and Searching).

Regarding claims 7, 9, and 12, Garfield teaches a dictionary used to lookup fragments and substructures, with chemical prefixes and suffixes and common chemical word endings (Table II, p. 471).

Regarding claims 10-11, Garfield teaches a dictionary of stop words (p. 487, 2nd para, 2nd to last sentence).

Regarding claims 13-15, Garfield teaches the application of regular expressions comprised of a plurality of patterns (further comprised of characters, numbers, and punctuation; (cl.14) (p. 487, 2nd para., sent. 5) in which punctuation characters are maintained or removed (cl.13) (Dictionary match routine, p.486) and where punctuation can be at least one of parenthesis, square bracket, hyphen, colon and semicolon (cl. 15) (p. 487, 2nd para., sent. 5, "paren" and next sentence, "hyphen").

Regarding claims 17, Garfield teaches characters comprising the string “yl” (p. 487, 2nd para., sent. 2).

Response to Arguments

Applicant's arguments filed 10 August 2007 have been fully considered and are partially persuasive. Applicant argues that Garfield does not disclose or suggest a method of processing a text document, partitioning a text document recognizing chemical name fragments and substructures and extracting identifying information from the recognized chemical name fragments/substructures of the text from the text document. This argument is not persuasive. Garfield shows an algorithm in which scientific literature is processed by partitioning the text and assigning semantic meaning to words. Garfield shows that chemical name fragments such as meth, acid, and acid amide are recognized. Garfield shows that the algorithm can be carried out manually (see example 1-4, p. 482-484). Taken as a whole, Garfield describes using a linguistic approach to extract chemical formulas from chemical names in text documents and teaches the claimed method.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., reading or sensing printed texts of a text document) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicants argument regarding the computer program and system are persuasive.

Claim Rejections - 35 USC§103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Applicant's arguments, see remarks p.13-17, filed 10 August 2007, with respect to computerization of text analysis of Garfield have been fully considered and are persuasive. The rejection of claims 2-3, 6, 20-21, 24, 38-39, and 42 under 35 U.S.C. 103(a) as being unpatentable over Garfield, as applied to claims 1, 4, 7, 9-15,17, 19, 22, 25, 27-33, 35, 37 and 40 above, and further in view of Hull et al. has been withdrawn.

Applicant's arguments, see remarks p.13-17, filed 10 August 2007, with respect to computerization of text analysis of Garfield have been fully considered and are persuasive. The rejection of claims 18 and 36 under 35 U.S.C. 103(a) as being unpatentable over Garfield, as applied to claims 1, 4, 7, 9-15,17, 19, 22, 25, 27-33, 35, 37 and 40 above, and further in view of Kemp et al. has been withdrawn.

Applicant's arguments, see remarks p.13-17, filed 10 August 2007, with respect to computerization of text analysis of Garfield have been fully considered and are persuasive. The rejection of claims 5, 16, 23, 34, and 41 under 35 U.S.C. 103(a) as

being unpatentable over Garfield as applied to claims 1, 4, 7, 9-15,17, 19, 22, 25, 27-33, 35, 37 and 40 above, and further in view of Dittmar et al. has been withdrawn.

Applicant's arguments, see remarks p.13-17, filed 10 August 2007, with respect to computerization of text analysis of Garfield have been fully considered and are persuasive. The rejection of claims 8 and 26 under 35 U.S.C. 103(a) as being unpatentable over Garfield as applied to claims 1, 4, 7, 9-15,17, 19, 22, 25, 27-33, 35, 37 and 40 above, and further in view of Drefahl et al. has been withdrawn.

Applicant's arguments, see remarks p.13-17, filed 10 August 2007, with respect to computerization of text analysis of Garfield have been fully considered and are persuasive. The rejection of claim 43 under 35 U.S.C. 103(a) as being unpatentable over Garfield, and Shivaratri et al. has been withdrawn.

Applicant's arguments, see remarks p.13-17, filed 10 August 2007, with respect to computerization of text analysis of Garfield have been fully considered and are persuasive. The rejection of claim 44 under 35 U.S.C. 103(a) as being unpatentable over Garfield and Shivaratri et al. as applied to claim 43 above, and further in view of Leiter et al. has been withdrawn.

Applicant's arguments, see remarks p.13-17, filed 10 August 2007, with respect to computerization of text analysis of Garfield have been fully considered and are

persuasive. The rejection of claims 45 and 46 under 35 U.S.C. 103(a) as being unpatentable over Garfield and Shivaratri as applied to claim 43 above, and further in view of Drefahl et al. has been withdrawn.

Claims 1, 4, 7, 9-15, 17, 19, 22, 25, 27-33, 35, 37, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman (US PAT 6,182,029), in view of Brecher (US PAT 7,054,754) and in view of Moore et al. (US PAT 5,577,239).

The claims are directed to a method of processing a text document, comprising: partitioning text of the text document and assigning semantic meaning to words, where assigning comprises applying a plurality of regular expressions, rules and a plurality of dictionaries to recognize chemical name fragments; recognizing any substructures present in the chemical name fragments; and determining structural connectivity information of the chemical name fragments and recognized substructures; extracting identifying information from the recognized chemical name fragments and substructures and storing the identifying information with determined structural connectivity information in a searchable index. Similarly, claim 19 is drawn to a system and claim 37 is drawn to a computer program product automating the method of claim 1 and its dependents.

Friedman shows a method and system for extracting information from natural language text data. Friedman shows information is extracted from text documents (col. 4, line 59-63). Friedman shows that the text of the text document is partitioned into phrases (col. 6, line 36-45). Friedman shows that partitioned phrases are further parsed

to assign semantic meaning to words (col. 6, line 63-65). Friedman suggests that chemical information can be identified and extracted (col. 11, line 34-50). Friedman shows the method provides reliable and efficient access to information within a document and is useful for retrieving and summarizing relevant information in documents (col. 4, line 59-67).

Friedman does not show the application of regular expressions and a plurality of chemical dictionaries to recognize chemical names or storing information in a searchable index.

Brecher shows a method system and computer program product for processing text documents to extract chemical information. Brecher shows the application of regular expression (col. 5, line 41-45) and a plurality of dictionaries to recognize chemical names (col. 6, line 29-40). Brecher shows that the lexicon has at least a sub lexicon to identify stopwords (col. 8, line 49-50), prefixes (col. 9, line 55) or suffixes (col. 11, line 43). Brecher shows that substructures are recognized (col. 6, line 31-33). Brecher shows that structural connectivity is determined (col.7, line 35-57). Brecher et al. shows that identifying information is extracted from the substructures and fragments to produce a fully parsed chemical name that is correlated to a chemical structure. Brecher shows the method allows chemical names to be accurately converted to chemical structures in real time or in nearly real time to provide users with a powerful, practical tool (col. 2, line 11-14).

Moore et al. shows a method of storing extracted identifying information in a searchable index (col. 4, line 28-35). Moore et al. shows that the index can be

searched by a combination of substructure names (col. 7, line 47-48) and connectivities (col. 10, line 43-46). Moore et al. shows the method has the advantage of simplified search queries (col. 12, line 42-46). Moore et al. shows the method has the further advantages of reducing database development and maintenance costs, simplify interfacing with other information systems (col. 2, line 10-23).

It would have been obvious to one skilled in the art to modify the method of extracting information from natural language text documents of Friedman with the method of extracting chemical information from text of Brecher and the method of storing and searching chemical identifying information of Moore et al. because Brecher shows chemical names can be accurately converted to chemical structures in real time or in nearly real time which is advantageous. It would have been further obvious to modify the method of extracting information from natural language text documents of Friedman with the method of extracting chemical information from text of Brecher and the method of storing and searching chemical identifying information of Moore et al. because Moore et al. shows the method has the advantages of reducing database development and maintenance costs, simplify interfacing with other information systems.

Claims 2-3, 6, 20-21, 24, 38-39, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman, in view of Brecher and in view of Moore et al, as applied to claims 1, 4, 7, 9-15, 17, 19, 22, 25, 27-33, 35, 37, and 40 above, and further in view of Hull et al. (US PAT 6,332,138).

Claims 2-3, 6, 20-21, 24, 38-39 and 42 are drawn to extracting keywords and storing identifying information and keywords in association with structural connectivity in a searchable index and then searching the index using a keyword and a chemical fragment. With respect to claims 6, 24, and 42, claims include the limitations of searching a text index and a structure index to identify a document.

Friedman, in view of Brecher and in view of Moore et al. does not teach storing keywords and identifying information in association with structural connectivity and then searching an index with a keyword and a fragment name or connectivity.

Hull et al. teach extracting keywords and storing identifying information and keywords in association with structural connectivity in a searchable index and then searching the index using a keyword and a chemical fragment. Hull teaches extracting keywords from the document (col. 9, lines 15 -32). Extracted identifying information is stored in association with structural connectivity information in a searchable matrix (index) (col.10, lines 32-52). Hull et al. teach the searching of the index by a keyword and a fragment/substructure name or connectivity (col. 16, lines 21-33, and col. 13, lines 40 -67).

With respect to claims 6, 24, and 42, Hull et al. teach searching the text index and chemical index of the database with keywords and with a structure (structural connectivity) to identify documents (col. 16, lines 21-33).

It would have been obvious to one skilled in the art to combine the extraction of chemical names, subsequent conversion to chemical structure and storage in an index of Friedman, in view of Brecher and in view of Moore et al. with the method of keyword

extraction, storage of identifying information in association with chemical structural connectivity and the searching of the index by a keyword and chemical connectivity or name because Hull et al. teach the method allows researchers to take advantage of past experiments described in the literature to gain an advantage in the development of new drugs (col.12, line 17-20).

One would have been motivated to do so by Hull et al. because Hull et al. shows the method will allow the identification of potential uses for and/or problems with new drugs saving millions of dollars in research and development costs (col. 12, line 15-17). One would have had a reasonable expectation of success because Hull et al. demonstrates the success of the method to identify compounds sharing substructures (col 12, line 22 to col. 15, line 25).

Claim 18 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman, in view of Brecher and in view of Moore et al, as applied to claims 1, 4, 7, 9-15, 17, 19, 22, 25, 27-33, 35, 37, and 40 above, and further in view of Kemp et al. (J. Chem. Inf. Comput. Sci., Vol. 38, p. 544-551, 1998).

Claims 18 and 36 are drawn to tokenizing a document to produce a series of tokens.

Friedman, in view of Brecher and in view of Moore et al. does not teach tokenizing a document to produce a series of tokens.

Kemp et al. teach the tokenization of documents into a sequence of tokens (p. 547, 2nd para, sent. 2).

It would have been obvious to one of ordinary skill in the art to combine the method of Friedman, in view of Brecher and in view of Moore et al. with the tokenization of Kemp et al. because Kemp et al. shows tokenization is useful to prepare data for automated analysis.

One would have had a reasonable expectation of success because Kemp et al. teach regarding text processing procedures that even simple methods can achieve very high degree of success (Kemp et al., abstract).

Claims 5, 16, 23, 34, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman, in view of Brecher and in view of Moore et al. as applied to claims 1, 4, 7, 9-15, 17, 19, 22, 25, 27-33, 35, 37, and 40 above, and further in view of Dittmar et al. (J. Chem. Inf. Comput. Sci., Vol. 23, No. 3, p93-102, 1983).

Claims 5 and 23 are drawn to searching an index by at least one of a fragment or substructure connectivity using a graphical user interface.

Claims 16 and 34 are drawn characters comprising at least one of upper case C, O, R, N, H.

Friedman, in view of Brecher and in view of Moore et al. does not teach searching an index by at least one of a fragment or substructure connectivity using a graphical user interface or characters comprising at least one of upper case C, O, R, N, H.

Dittmar et al. teach searching an index by at least one of a fragment or substructure connectivity (p.99, col. 2, para2, sent. 1) using a graphical user interface (p. 93, col. 1, para. 3, sent. 2).

Dittmar et al. teach or characters comprising at least one of upper case C, O, R, N, H (p. 98, col. 1 par 2, sent. 3; para.3, sent. 1; and p. 99, para 2-3).

It would have been obvious to combine the teaching Friedman, in view of Brecher and in view of Moore et al. with the teach Dittmar et al. because Dittmar et al. teach implementation of a user interface to simplify searching (p. 93, col. 1, para 3, sent. 1).

One would have been motivated to do so because Dittmar et al. teach the simplification and improvement of query framing and search procedures through the use of structure diagrams (p. 93, col. 1, para 3, sent. 1).

One would have had a reasonable expectation of success because Dittmar et al. describe the successful use of a graphical user interface.

Claims 8 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman, in view of Brecher and in view of Moore et al. as applied to claims 1, 4, 7, 9-15, 17, 19, 22, 25, 27-33, 35, 37, and 40 above, and further in view of Drefahl et al. (J. Chem. Inf. Comput. Sci., Vol. 33, 886-895,1993).

Claims 8 and 26 are directed to a structure dictionary comprising at least one of a MOL dictionary and a SMILES dictionary.

Friedman, in view of Brecher and in view of Moore et al. does not teach a structure dictionary comprising at least one of a MOL dictionary and a SMILES dictionary.

Drefahl et al. teach a structure dictionary comprising at least one of a MOL dictionary and a SMILES dictionary (abstract, sent. 3).

It would have been obvious to combine the teachings of Friedman, in view of Brecher and in view of Moore et al. and Drefahl et al. because Drefahl et al. shows that SMILES notation provides a compact and computationally amenable way to encode chemical structure information.

One would have had a reasonable expectation of success because Drefahl et al. describe the successful application of a SMILES dictionary structure-based retrieval and searching.

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman, in view of Brecher and in view of Moore et al as applied to claims 1, 4, 7, 9-15, 17, 19, 22, 25, 27-33, 35, 37, and 40 above, and Shivaratri et al. (Computer, p. 33-44,December 1992).

Claim 43 is directed to a system of computers coupled through a data communications network comprising a unit to parse document text; a unit to recognize substructures in chemical name fragments; a unit to identify structural connectivity in fragments and substructures and store the structural connectivity information in a searchable index.

Friedman, in view of Brecher and in view of Moore et al. teaches a method of parsing text to recognize chemical name fragments and any substructures in the chemical name fragments substructures as described above.

Friedman, in view of Brecher and in view of Moore et al. teaches determination of structural connectivity information of the chemical name and substructures as described above.

Friedman, in view of Brecher and in view of Moore et al. does not teach a system of computers coupled through a data communications network.

Shivaratri et al. teach a system of computers coupled through a data communication network (p. 33, para 4, sent. I) to generate a distributed computing system.

It would have been obvious to combine the method of Friedman, in view of Brecher and in view of Moore et al. with the teachings of Shivaratri et al. because distributing computational loads improves performance of computational tasks.

One would have been motivated by Shivaratri et al. who describe the advantages of distributed computing systems as offering high performance, availability, and extensibility at low cost (p. 33, para. 1, sent.2).

One would have had a reasonable expectation of success because Shivaratri et al. describe the successful implementation of distributed computing systems.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman, in view of Brecher, in view of Moore et al. and Shivaratri et al. as applied to

claim 43 above, and further in view of Leiter et al. (J. Chem. Doc., Vol. 15, No. 4, p. 238-242, 1965).

Claim 44 is directed to structural information stored in a searchable index, text information stored in a searchable index and searching both the structure and text indices to identify a document related to a chemical compound.

Leiter et al. teach the storage of structural information and text information (reading on keywords) in searchable indices (Fig 2). Leiter et al. teach the searching the indices to identify documents related to a chemical compound (p. 238, col. 2, lines 5-7).

Friedman, in view of Brecher, in view of Moore et al. and Shivaratri et al. does not teach structural information stored in a searchable index, text information stored in a searchable index and searching both the structure and text indices to identify a document related to a chemical compound.

It would have been obvious to combine the teachings of Friedman, in view of Brecher and in view of Moore et al, Shivaratri et al, and Leiter et al. because the combination of the three references provides the functionality of using the indices to find documents of interest quickly and efficiently.

One would have been motivated by Shivaratri et al. who describe the advantages of distributed computing systems as offering high performance, availability, and extensibility at low cost (p. 33, para. 1, sent.2).

One would have had a reasonable expectation of success because Shivaratri et al. describe the successful implementation of distributed computing systems.

Claim 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman, in view of Brecher and in view of Moore et al, and Shivaratri et al. as applied to claim 43 above, and further in view of Drefahl et al. (J. Chem. Inf. Comput. Sci., Vol. 33, 886-895,1993).

Claim 45 is directed to a structure dictionary that is used to determine structural connectivity information.

Claim 46 is directed to a structure dictionary comprising at least one of a MOL dictionary and a SMILES dictionary.

Friedman, in view of Brecher and in view of Moore et al. teaches a structure dictionary that is used to determine structural connectivity information as described above.

Friedman, in view of Brecher and in view of Moore et al. and Shivaratri et al. does not teach a structure dictionary comprising at least one of a MOL dictionary and a SMILES dictionary.

Drefahl et al. teach a structure dictionary comprising at least one of a MOL dictionary and a SMILES dictionary (abstract, sent. 3).

It would have been obvious to combine the teachings of Friedman, in view of Brecher and in view of Moore et al. and Shivaratri et al. and Drefahl et al. because SMILES notation provides a compact and computationally amenable way to encode chemical structure information.

One would have been motivated by Shivaratri et al. who describe the advantages of distributed computing systems as offering high performance, availability, and extensibility at low cost (p. 33, para. 1, sent.2).

One would have had a reasonable expectation of success because Shivaratri et al. describe the successful implementation of distributed computing systems.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karlheinz R. Skowronek whose telephone number is (571) 272-9047. The examiner can normally be reached on Mon-Fri 8:00am-5:00pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie A. Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

22 October 2007

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